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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
RAMOS FELICIANO, ELISEO	

ART UNIT	PAPER NUMBER
2687	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/028,571	RAJKOTIA, PURVA R.
	Examiner	**Art Unit**
	Eliseo Ramos-Feliciano	2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *31-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *31-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 31-60** are rejected under 35 U.S.C. 103(a) as being unpatentable over Innes et al. (US Patent Number 6,061,565) in view of the Admitted Prior Art (cited hereinbelow), and further in view of Bevan et al. (US Patent Number 6,489,923).

NOTE (applicable to all claims): Present application's nomenclature and Innes et al.'s nomenclature is different. Care should be taken not to confuse the variables used. For example, present application's "D" is defined as one way travel time (a measurement of time; see page 17, lines 5-11), in contrast with Innes et al.'s "D" which is defined as the distance between a base station BTS 26 and a mobile station MS 16 (a measurement of length; see column 4, lines 10-15). To define time Innes et al. uses "t" or "τ" (tau). Some of Innes et al.'s definitions relevant to present discussion are (see column 3, line 58 to column 4, line 15):

speed of light = c
transmission time = t0
arrival time = t3
delay = σ
one way travel time = $\frac{1}{2}$ (t3 – t0 – σ) = $\frac{1}{2}$ (τ1 + τ2) = τ1 = τ2
two way travel time = τ1 + τ2 = t3 – t0 – σ
distance from BTS to MS = D = $\frac{1}{2}$ c (t3 – t0 – σ)

Regarding **claims 31, 38 and 45**, Innes et al. discloses a method, an apparatus and a base station including the apparatus (column 4, lines 49-50) for use in a wireless network communications system (Figure 4) including a plurality of base stations (BTS 26) and a plurality of mobile stations (MS 16) (column 2, lines 61-67; column 3, lines 15-20), the apparatus for determining a distance (Innes et al.'s "D") from a base station to a mobile station (column 3, lines 39-40; column 4, lines 14-16), the apparatus including:

a distance unit (MMSU 36 and/or PLC 38; see column 4, lines 42-43, 60-63) associated with said base station (BTS 26) wherein said distance unit is capable of:

obtaining a two way travel, wherein the two way travel time is a time of travel for a range signal to travel from the base station to the mobile station and to travel from the mobile station to the base station,

(note: the distance unit is capable of determining: *one way travel time = 1/2 [(two way travel time) - (delay)]*, or *one way travel time = 1/2 [(t3 – t0) – (σ)]*; (see Figure 3); obtaining a two way travel time by subtracting an arrival time (t3) of the range signal at the base station from the mobile station from a transmission time (t0) of the range signal from the base station to the mobile station; see column 3, line 64 to column 4, line 15)

determining a one way travel time ($\frac{1}{2}(t3 - t0 - \sigma) = \frac{1}{2}(\tau1 + \tau2) = \tau1 = \tau2$; see Figure 3) of a signal from said base station to said mobile station; and

multiplying said one way travel time by the speed of light (c) to obtain said distance ($D = \frac{1}{2} c (t3 - t0 - \sigma)$) from said base station to said mobile station (see column 4, lines 10-15).

Innes et al. explains in detail the invention at column 3, line 58 to column 4, line 16. With reference to Figure 3, a base station (BTS 26) starts transmission at an absolute time reference t0 (column 3, line 64-65). Mobile station (MS 16) receives the signal at a time t1 (column 3, line 65-66). A response from the mobile station to the base station is sent after a processing delay

period σ at a time t2 (column 4, lines 2-7). The response is received at the base station at a time t3 (column 4, line 9). Consequently, one way travel time from the base station to the mobile station is $\tau 1 = t1 - t0$; and one way travel time from the mobile station to the base station is $\tau 2 = t3 - t2$. The delay period is $\sigma = t2 - t1$. On the assumption that the distance which may be traveled by the mobile station during the period σ is small then $\tau 1$ and $\tau 2$ are equal (one way travel time $= \tau 1 = \tau 2 = ½ (\tau 1 + \tau 2) = ½ (t3 - t0 - \sigma)$), while σ is small (column 4, lines 11-13). Therefore, if c is the speed of light, the distance from the base station to the mobile station is $D = ½ c (t3 - t0 - \sigma)$; see column 4, lines 14-16.

However, Innes et al. fails to specifically disclose that the delay (σ) is a random backoff defined as a time value of a chip length of a random backoff parameter of the mobile station as defined by applicant.

Nevertheless, Innes et al. defines the delay σ as the period of time between reception of the signal from BTS at a time t1 until transmission of the response from MS back to BTS starts at a time t2 (column 4, lines 2-8). This is a signal processing delay (Figure 3). Then adds "an embodiment of the invention has been described above with reference to a GSM system, but it should be noted that the invention is also applicable to other type of cellular mobile radio system, including CDMA and TDMA" (column 5, lines 63-66).

The prior art admitted by applicant (the "Admitted Prior Art") disclosed on page 17, line 15 to page 18, line 22 teaches that the IS-95 CDMA standard (the "Standard") defines a random backoff as the time duration after which a mobile station starts transmission (page 18, lines 2-3) and equals a time value of a chip length (page 17, lines 18-19).

Following Innes et al.'s suggestion of applying their invention to a CDMA cellular mobile radio system, such as IS-95 CDMA, one of ordinary skill in the art would easily recognize that Innes et al.'s delay σ would be the counterpart of IS-95 CDMA standard's random backoff parameter.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to replace Innes et al.'s GSM delay σ by IS-95 CDMA standard's random backoff parameter, as suggested by Innes et al., in order to comply with the IS-95 CDMA standard, for the advantage of extending cellular mobile radio service to a greater number of customers.

<u>However</u>, Innes et al. and the Admitted Prior Art fail to specifically disclose that the distance unit is capable of adjusting a value of the travel time to correct for signal conditions causing a time difference in arrival of the range signal at the base station, as claimed.

In the same field of endeavor, Bevan et al. discloses a method and apparatus for adjusting a value of a travel time to correct for signal conditions causing a time difference in arrival of the range signal at the base station; the conditions causing the time difference being, for example: multipath and/or Doppler shift (column 2, lines 6-24; column 6, lines 20-24). For compensating for errors due to multipath and/or Doppler shift Bevan et al. teaches several techniques, any of which reads on the claimed adjusting step. See for example: multipath (subsections starting at column 13, line 62, and column 14, line 45) or Doppler shift (subsections starting at column 9, lines 16 & 54, and column 11, line 43). An advantage of Bevan et al. is to achieve accurate and precise positioning of mobile wireless receivers, including E-911 applications, and further meeting FCC E911 mandate in as many environments as possible; see column 3, lines 3-14.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to adjust the value of the two way travel time to correct for signal conditions causing a time difference in arrival of the range signal at the base station, in order to achieve accurate and precise positioning of mobile wireless receivers, including E-911 applications, and further meeting FCC E911 mandate in as many environments as possible, as suggested by Bevan et al.

Regarding **claims 32-33, 39-40, and 46-47**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claims 31, 38, and 45*). In addition, as explained above, Innes et al. teaches that the distance unit is capable of adjusting the value of the two way travel time to correct a time difference of a multipath signal or a Doppler shifted signal. See multipath (subsections starting at column 13, line 62, and column 14, line 45) or Doppler shift (subsections starting at column 9, lines 16 & 54, and column 11, line 43).

Regarding **claims 34, 41, and 48**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claims 31, 38, and 45*). In addition, the distance unit is capable of obtaining the two way travel time by subtracting an arrival time (t3) of the range signal at the base station from the mobile station from a transmission time (t0) of the range signal from the base station to the mobile station (as explained in the preceding paragraphs; see column 3, line 64 to column 4, line 15).

Regarding **claims 35-36, 42-43, and 49-50**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claims 31, 38, and 45*). In addition, the Admitted Prior Art further teaches that in the IS-95 CDMA standard the random backoff parameter for the mobile station has a chip length value between zero chip lengths and

five hundred eleven chip lengths; wherein a time value for one chip length value is eight hundred thirteen and eight tenths nanoseconds.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to choose the random backoff parameter for the mobile station with at a chip length value between 0 and 511 chip lengths and the time value for one chip length value at 813.8 ns, in order to comply with the IS-95 CDMA standard.

Regarding **claims 37, 44, and 51**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claims 31, 38, and 45*). In addition, the Admitted Prior Art discloses on page 21, lines 3-16 that for the duration of the random backoff equal to one chip = 813.8 ns (page 17, lines 15-22), this corresponds to a distance resolution of approximately 244-m (page 21, lines 10-12).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to obtain the location of the mobile station with a distance resolution of approximately 244-m in order to comply with the IS-95 standard, as suggested by Innes et al., and further to comply with FCC regulations.

Regarding **claim 52**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claim 45*). However, they fail to explicitly mention to determine the distance from the base station to the mobile station in less than ten seconds.

The prior art admitted by applicant (the "Admitted Prior Art") disclosed on page 21, lines 4-6 teaches that the speed of light (c) is 299,792,458 meters per second.

Innes et al. suggests a maximum separation between base station and mobile station of 35,456 meters (column 4, lines 35).

Innes et al. taught that distance = (speed of light) (time). See column 4, line 14.

Therefore, time = (distance) / (speed of light).

Consequently,

time = (35,456 m) / (299,792,458 m/s)

time = 0.11827 ms ; for one way of travel (double for two way of travel).

Since processing delay = σ = 1.73076 ms ; see column 4, line 8.

Total time required to determine the distance is

= 2 x (0.11827 ms) + 1.73076 ms

= 1.96730 ms; i.e. roughly 2 milliseconds.

Therefore, it is clear that 2 milliseconds is less than ten seconds as claimed.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to obtain the distance from the base station to the mobile station in less than ten seconds, because such speed is desirable, and because it flows from mathematical manipulation given Innes et al. and the Admitted Prior Art suggestions of speed of light and separation between base station and mobile station.

Regarding **claims 53 and 56**, Innes et al. discloses a method and an apparatus for use in wireless network communications system (Figures 4-5) including a plurality of base stations (BTS 26; BTS1-BTS3) and a plurality of mobile stations (MS 16), the apparatus for locating a mobile station in an area (40 - Figure 5; column 5, lines 23-29) between three base stations (BTS1-BTS3 - Figure 5), the apparatus including:

a distance unit (MMSU 36) associated with each of the three base stations (MMSU for BTS1, MMSU for BTS2, MMSU for BTS3; column 5, lines 1-25) wherein the distance unit is capable of:

obtaining a two way travel time, wherein the two way travel time is a time of travel for a range signal to travel from each respective base station to the mobile station and to travel from the mobile station to each respective base station (see explanation hereinbelow);

(note: the distance unit is capable of determining: *one way travel time = 1/2 [(two way travel time) - (delay)]*, or *one way travel time = 1/2 [(t3 – t0) – (σ)]*; (see Figure 3); obtaining a two way travel time by subtracting an arrival time (t3) of the range signal at the base station from the mobile station from a transmission time (t0) of the range signal from the base station to the mobile station; see column 3, line 64 to column 4, line 15)

determining/calculating a one way travel time ($\frac{1}{2}(t3 - t0 - \sigma) = \frac{1}{2}(\tau 1 + \tau 2) = \tau 1 = \tau 2$; see Figure 3) of a signal from each respective station to the mobile station where

one way travel time = 1/2 [(two way travel time) - (delay)], or

one way travel time = 1/2 [(t3 – t0) – (σ)]; (see Figure 3);

multiplying each respective one way travel time by the speed of light (c) to obtain each respective distance (D1, D2, D3; $D = \frac{1}{2} c\,(t3 - t0 - \sigma)$) from each respective base station to the mobile station (column 4, lines 10-15); and

identifying a location (position) of the mobile station within the area between the three base stations using the respective distances of the mobile station from the respective base stations (column 4, lines 62-63 and column 5, lines 23-26).

Innes et al. explains in detail the invention at column 3, line 58 to column 4, line 16. With reference to Figure 3, a base station (BTS 26) starts transmission at an absolute time reference t0 (column 3, line 64-65). Mobile station (MS 16) receives the signal at a time t1 (column 3, line

65-66). A response from the mobile station to the base station is sent after a processing delay period σ at a time t2 (column 4, lines 2-7). The response is received at the base station at a time t3 (column 4, line 9). Consequently, one way travel time from the base station to the mobile station is $\tau 1 = t1 - t0$; and one way travel time from the mobile station to the base station is $\tau 2 = t3 - t2$. The delay period is $\sigma = t2 - t1$. On the assumption that the distance which may be traveled by the mobile station during the period σ is small then $\tau 1$ and $\tau 2$ are equal (one way travel time $= \tau 1 = \tau 2 = \frac{1}{2}(\tau 1 + \tau 2) = \frac{1}{2}(t3 - t0 - \sigma)$), while σ is small (column 4, lines 11-13). Therefore, if c is the speed of light, the distance from the base station to the mobile station is $D = \frac{1}{2} c (t3 - t0 - \sigma)$; see column 4, lines 14-16.

For each one of the three base stations (BTS1, BTS2, BTS3 - Figure 5) a distance (D1, D2, D3) from each respective base station to the mobile station is determined using: $D = \frac{1}{2} c (t3 - t0 - \sigma)$; see column 4, lines 14, 60-67 and column 5, lines 1-29. D1, D2, D3 are processed to determined the location of the mobile station (column 4, lines 62-63 and column 5, lines 23-26).

<u>However</u>, Innes et al. fails to specifically disclose that the delay (σ) is a random backoff defined as a time value of a chip length of a random backoff parameter of the mobile station as defined by applicant.

Nevertheless, Innes et al. defines the delay σ as the period of time between reception of the signal from BTS at a time t1 until transmission of the response from MS back to BTS starts at a time t2 (column 4, lines 2-8). This is a signal processing delay (Figure 3). Then adds "an embodiment of the invention has been described above with reference to a GSM system, but it

should be noted that the invention is also applicable to other type of cellular mobile radio system, including CDMA and TDMA" (column 5, lines 63-66).

The prior art admitted by applicant (the "Admitted Prior Art") disclosed on page 17, line 15 to page 18, line 22 teaches that the IS-95 CDMA standard (the "Standard") defines a random backoff as the time duration after which a mobile station starts transmission (page 18, lines 2-3) and equals a time value of a chip length (page 17, lines 18-19).

Following Innes et al.'s suggestion of applying their invention to a CDMA cellular mobile radio system, such as IS-95 CDMA, one of ordinary skill in the art would easily recognize that Innes et al.'s delay σ would be the counterpart of IS-95 CDMA standard's random backoff parameter.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to replace Innes et al.'s GSM delay σ by IS-95 CDMA standard's random backoff parameter, as suggested by Innes et al., in order to comply with the IS-95 standard, for the advantage of extending cellular mobile radio service to a greater number of customers.

<u>However</u>, Innes et al. and the Admitted Prior Art fail to specifically disclose that the distance unit is capable of adjusting a value of the travel time to correct for signal conditions causing a time difference in arrival of the range signal at the base station, as claimed.

In the same field of endeavor, Bevan et al. discloses a method and apparatus for adjusting a value of a travel time to correct for signal conditions causing a time difference in arrival of the range signal at the base station; the conditions causing the time difference being, for example: multipath and/or Doppler shift (column 2, lines 6-24; column 6, lines 20-24). For compensating

for errors due to multipath and/or Doppler shift Bevan et al. teaches several techniques, any of which reads on the claimed adjusting step. See for example: multipath (subsections starting at column 13, line 62, and column 14, line 45) or Doppler shift (subsections starting at column 9, lines 16 & 54, and column 11, line 43). An advantage of Bevan et al. is to achieve accurate and precise positioning of mobile wireless receivers, including E-911 applications, and further meeting FCC E911 mandate in as many environments as possible; see column 3, lines 3-14.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to adjust the value of the two way travel time to correct for signal conditions causing a time difference in arrival of the range signal at the base station, in order to achieve accurate and precise positioning of mobile wireless receivers, including E-911 applications, and further meeting FCC E911 mandate in as many environments as possible, as suggested by Bevan et al.

Regarding **claims 54 and 57**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claims 53 and 56*). In addition, as explained above, Innes et al. teaches that the distance unit is capable of adjusting the value of the two way travel time to correct a time difference of a multipath signal or a Doppler shifted signal. See multipath (subsections starting at column 13, line 62, and column 14, line 45) or Doppler shift (subsections starting at column 9, lines 16 & 54, and column 11, line 43).

Regarding **claims 55 and 59**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claims 53 and 56*). In addition, the invention further includes:

providing the respective distances of the mobile station from the respective base stations to a calculator unit (PLC 38) not located within the three base stations (column 4, lines 49-50, 60-63); and

calculating in the calculator unit a location of the mobile station from the respective distances of the mobile station from the respective base stations (see column 4, lines 41-67 and column 5, lines 1-29; see also claims 1 and 3 of Innes et al.).

Regarding **claim 58**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claim 56*). In addition, the Admitted Prior Art discloses on page 21, lines 3-16 that for the duration of the random backoff equal to one chip = 813.8 ns (page 17, lines 15-22), this corresponds to a distance resolution of approximately 244-m (page 21, lines 10-12).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to obtain the location of the mobile station with a distance resolution of approximately 244-m in order to comply with the IS-95 standard, as suggested by Innes et al., and further to comply with FCC regulations.

Regarding **claim 60**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claim 56*). In addition, the apparatus further includes:

a calculator unit (PLC 38) coupled to said three base stations (see Figure 4) but not located within said three base stations (column 4, lines 49-50), said calculator unit capable of receiving from said three base stations said respective distances of said mobile station from said respective base stations (column 4, lines 60-63);

wherein said calculator unit is capable of calculating a location of said mobile station from said respective distances of said mobile station from said respective base stations (see column 4, lines 41-67 and column 5, lines 1-29; see also claims 1 and 3 of Innes et al.).

Response to Arguments

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Applicant has asserted that the rejections of claims 1-30 are moot in view of present amendment (see page 12, seventh paragraph of the response filed February 7, 2005). New claims have now been treated on the merits. See above for a detailed consideration.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication from the examiner should be directed to Eliseo Ramos-Feliciano whose telephone number is 571-272-7925. The examiner can normally be reached from 8:00 a.m. to 5:30 p.m. on 5-4/9 1st Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid, can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ELISEO RAMOS-FELICIANO
PATENT EXAMINER

ERF/erf
July 5, 2005